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The information furnished in this manual does not include all of the details of design, production, or variations of the equipment. It does not cover all the possible contingencies which may arise during operation, installation, or maintenance. Should special problems arise, or further information be desired, please contact the Crown International Customer Service Department.

# Crown

## SERVICE MANUAL



### STRAIGHT LINE ONE PREAMPLIFIER

CROWN INTERNATIONAL, INC. 1718 W. MIDWAY RD. ELKHART, INDIANA 46514



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## REVIEW SECTION

### I. Introduction

This manual contains complete service information on the SL-1 preamplifier. It is designed to be used in conjunction with the SL-1 Instruction Manual. However, some important information is duplicated in this Service Manual in case the Instruction Manual is not readily available.

**NOTE:** THE INFORMATION IN THIS MANUAL IS INTENDED FOR USE BY AN EXPERIENCED TECHNICIAN ONLY!

### II. Warranty

As a Crown Warranty Service Station, you should be familiar with Crown warranty policies. Each Instruction Manual contains basic policies as related to the customer. However, under questionable circumstances, please contact the Technical Service Department or Director of Customer Service at: Crown International, Inc., 1718 W. Mishawaka Road, Elkhart, IN 46514.

### III. Specifications

**Frequency Response:** Tape, Aux, Tuner or Phono In to Main Out,  $\pm 1$ dB from 10Hz to 20KHz; +0, -1dB 10Hz-100KHz. SL-1 remote module alone, within 0.5dB of RIAA curve, 20Hz-20KHz.

**Hum and Noise:** From 20Hz to 20KHz the hum and noise level is 97dB below the rated output; 101dB below rated output A weighted.

**Phase Response:**  $\pm 10^\circ$ , 20Hz to 20KHz with IHF load.

**Harmonic Distortion:** Less than 0.0009% from 10Hz to 20KHz maximum rated output. Less than 0.0003% at 1KHz with IHF load.

**Intermodulation Distortion (IM):** Less than 0.00055% at rated output; 60Hz & 7KHz, 4:1.

**Slewing Rate:** 12 volts per microsecond.

**Low Cut Filter:** 18dB per octave slope, down 3dB at 33Hz.

### Input and Output Characteristics

**Input Impedance (RCA pin jacks, unbalanced):** SL-1 rear panel jacks, 25K ohms  $\pm 10\%$ . SL-1PM remote phono module, 47,000 ohms or 100,000 ohms in parallel with 5pf (switch selectable).

**Input Sensitivity:** At maximum VOLUME, 20dB (250mv RMS) applied to any SL-1 INPUT jack yields full rated output.

**Output Impedance (RCA pin jacks, unbalanced):** SL-1 Main Outputs, 600 ohms actual; will drive low or high impedance terminations.

**Output Level:** SL-1 Main Outputs, rated at 2.5V. SL-1 Tape Outputs carry same level as the output of the device selected with the SL-1 INPUT switches.

**Transient Surge Protection:** Relay grounds Main Outputs for 7 second delay when AC POWER is switched ON, and immediately when AC POWER is switched OFF.

### Physical and Electrical Specifications

**Controls:** SL-1; POWER On/Off, INPUT selector switches (Phono, Tuner, Aux 1, Aux 2), low cut FILTER switch, stepped output BALANCE control (15dB in 1dB increments, plus full kill of either channel), stepped output VOLUME control (60dB range in 2dB increments, plus full kill of both channels).

**Indicators:** One POWER ON LED (light emitting diode); Left and Right OVERLOAD LED's flash ON whenever signal levels reach threshold of clipping in either channel (a peak hold circuit aids visibility in the event of brief transient overloads).

**AC Mains Requirements:** Power supply may be restrapped to any of 5 nominal line voltages: 100, 120, 200, 220 and 240 volts AC ( $\pm 10\%$ ); line frequencies of 50Hz, 60Hz or 400Hz.

Total accessory AC outlet consumption is rated at 1500 watts (1200 watts maximum for all switched outlets, together).



**Mains Fuse:** Power transformer primary is protected by a series connected fuse, 1/8 amp.

**Circuitry:** All solid state, discrete transistors and diodes plus integrated circuits.

**Construction:** Machined front panel with black anodized finish; nickel-plated chassis parts; handles included.

**Dimensions:** SL-1 has 3 1/2" high x 19" wide rackmountable front panel and measures 7 3/4" deep behind the face of the rack. (8.89cm H x 48.26cm W x 19.69cm D).

SL-1PM is 1 3/4" high x 4 1/2" wide x 5 3/4" dep (4.5cm x 10.8cm x 14.6cm), excluding cables.

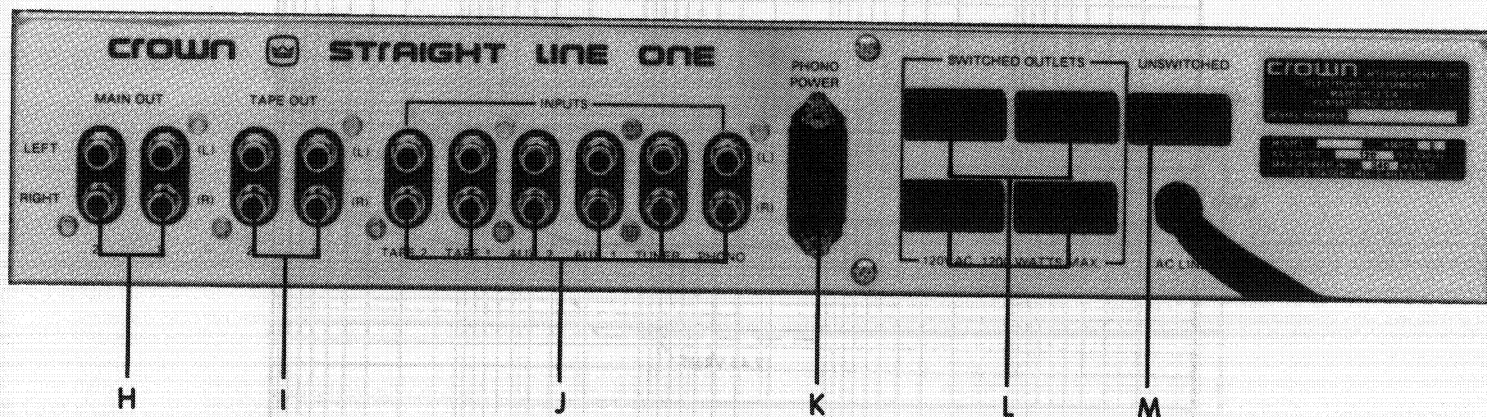
**Net Weight:** 10 pounds (4.55kg), including SL-1PM.

## IV. Panel Configuration



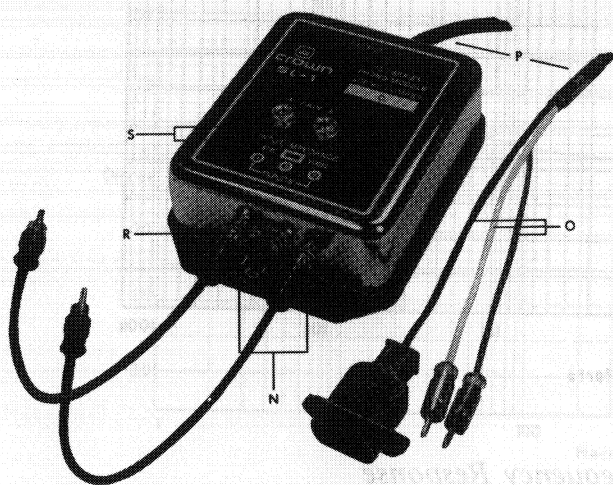
*Fig. RVW.1 SL-1 Front Panel*

- A. POWER SWITCH AND INDICATOR
- B. INPUT SELECTOR SWITCHES
- C. MONITOR SWITCHES
- D. FILTER SWITCH
- E. OVERLOAD INDICATORS
- F. BALANCE CONTROL
- G. VOLUME CONTROL



*Fig. RVW.2 SL-1 Back Panel*

- H. MAIN OUT JACKS
- I. TAPE OUT JACKS
- J. INPUT JACKS
- K. PHONO POWER CONNECTOR
- L. SWITCHED AC OUTLETS
- M. UNSWITCHED AC OUTLETS



- N. INPUT JACKS
- O. OUTPUT CABLES
- P. UMBILICAL CABLE
- R. INPUT IMPEDANCE SWITCH
- S. GAIN CONTROLS

*Fig. RVW.3 SL-1PM Phono Preamp Module*

## V. Performance Graphs

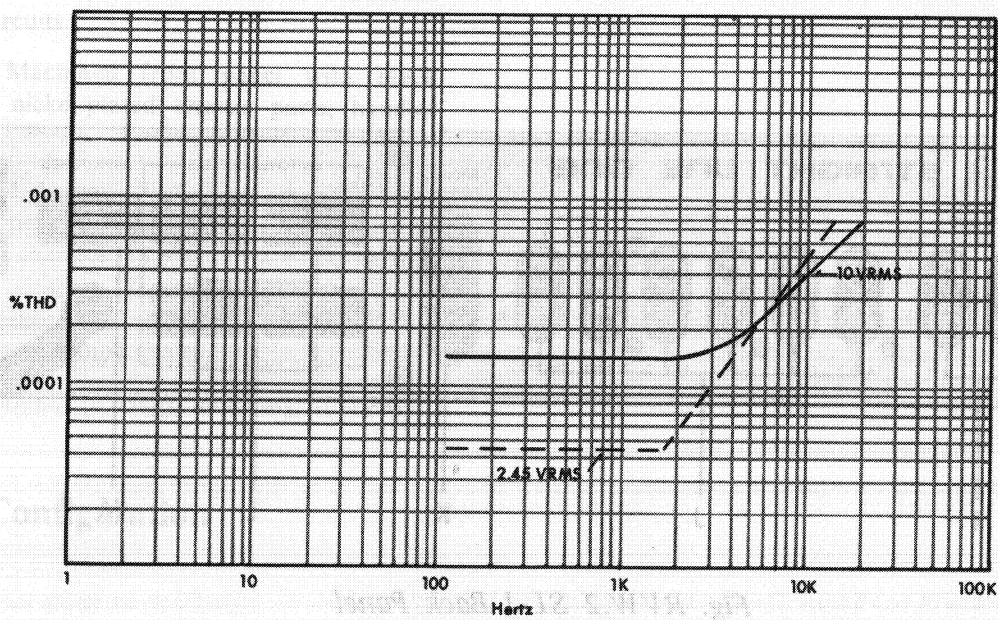


Fig. RVW.4 THD

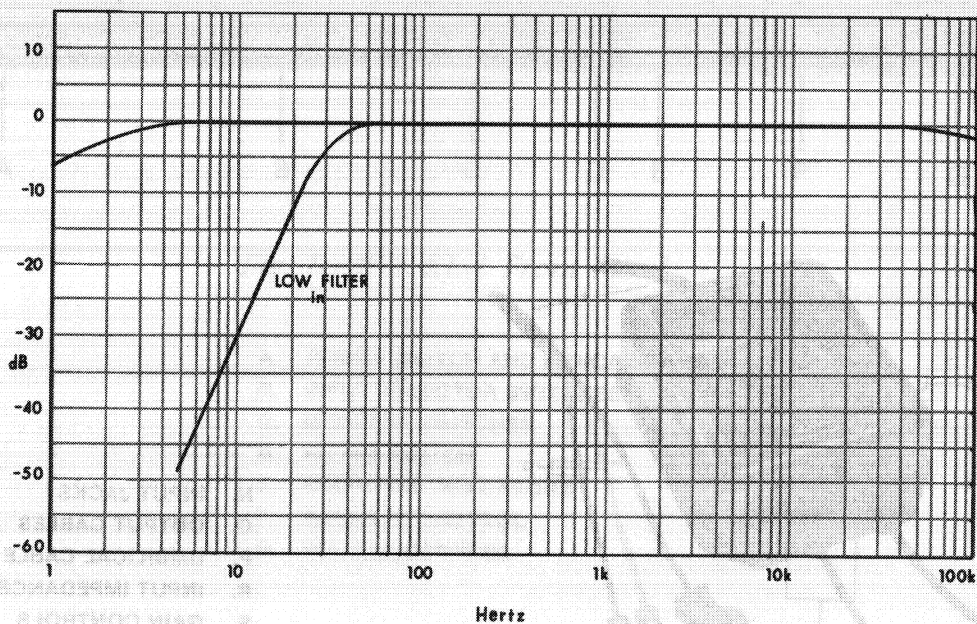


Fig. RVW.5 Frequency Response



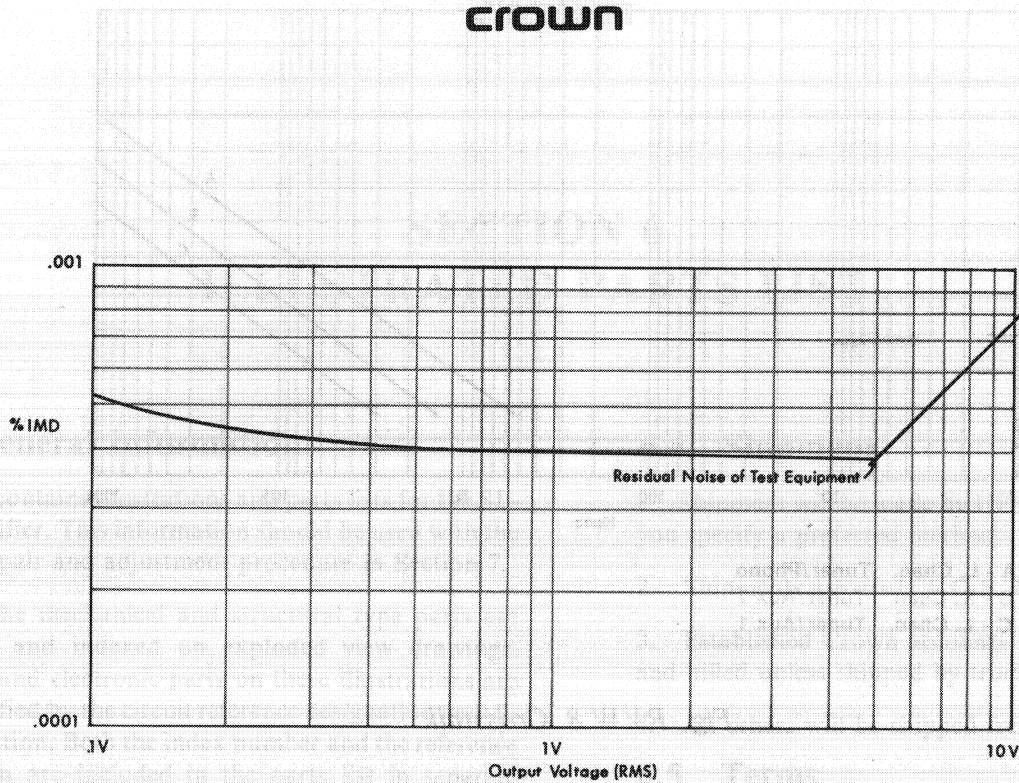


Fig. RVW.6 IM Distortion

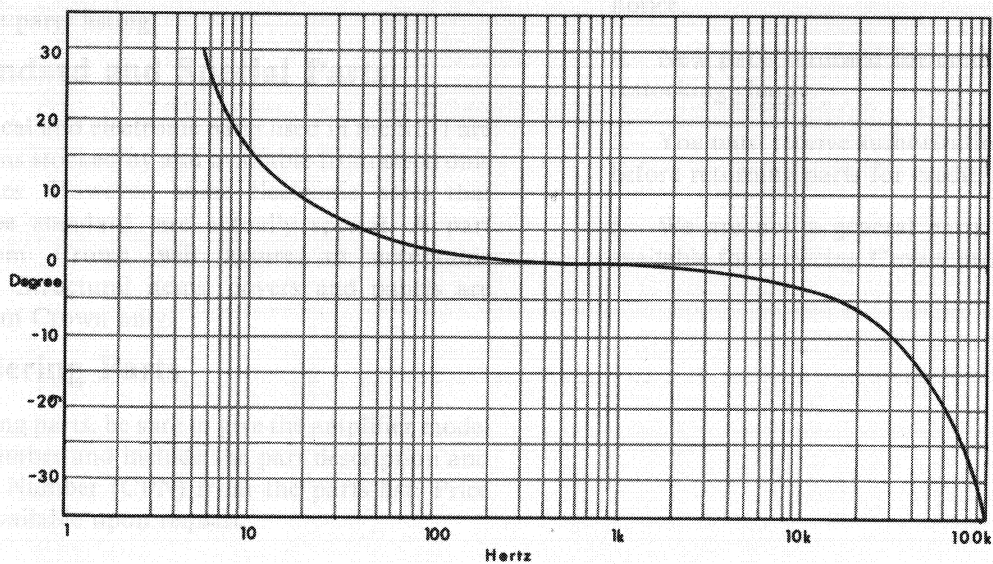


Fig. RVW.7 Phase Response